

## **SECTION 114 MATERIALS CERTIFICATION SCHOOLS PROGRAM**

The Materials Certification Schools (MCS) Program is offered by the Virginia Department of Transportation (VDOT) for individuals who wish to receive training and certification in the areas of Concrete, Asphalt Concrete, Soils, Aggregate, Pavement Marking, Slurry Surfacing and Surface Treatment. The goal is to provide on-going training in materials technology for industry and VDOT employees for the purpose of providing a competent workforce. These workers are involved in the production, utilization, acceptance, testing and inspection of materials used in the Commonwealth's transportation infrastructure.

To attain this goal the Certification Programs objectives are:

Provide technical training to VDOT and industry personnel.

Enhance the teamwork and efficiency of VDOT, Industry, Municipalities, Testing/Inspection Agencies, and Consultants by training all individuals together.

Support VDOT's Construction and Maintenance Programs through provision of appropriate training.

Support VDOT's Quality Control and Quality Assurance Programs.

### **Sec. 114.01 Specification Requirements**

VDOT specifications require that the Contractor have present during the production, placement and testing of some materials a Certified Materials Technician. The following activities and the corresponding technicians summarize these specifications. **Refer to the Virginia Department of Transportation Road and Bridge Specifications or the project contract documents for the actual specifications.**

The production of Central Mix Aggregate requires the presence of a Certified Aggregate Plant Technician.

The Contractor shall have a Department-certified Asphalt Mix Design Technician for designing and adjusting mixes as necessary. The Asphalt Mix Design Technician or Asphalt Plant Level II Technician may perform testing of asphalt mixes.

The Contractor is responsible for having a Certified Concrete Plant Technician available during batching operations.

The Contractor shall have an Asphalt Field Level II Technician present during paving operations.

The placement of Slurry Surfacing requires the presence of a Certified Slurry Surfacing Technician.

The placement of Concrete requires the presence of a Certified Concrete Field Technician.

The placement of pavement markings requires the presence of a Certified Pavement Marking Technician.

The placement of Surface Treatment requires the presence of a Certified Surface Treatment Technician.

**Sec. 114.02 Certification Application**

All candidates for Certification in the VDOT Materials Certification *Schools* Program must read and sign an Application for Certification found in Appendix E.

**Sec. 114.03 Certification Titles**

| School                      | Certification Title                        |
|-----------------------------|--|
| Asphalt Field Level I       | Asphalt Field Level I Technician           |
| Asphalt Field Level II      | Asphalt Field Level II Technician          |
| Slurry Surfacing            | Slurry Surfacing Technician                |
| Surface Treatment           | Surface Treatment Technician               |
| Asphalt Plant Level I       | Asphalt Plant Level I Technician           |
| Asphalt Plant Level II      | Asphalt Plant Level II Technician          |
| Asphalt Plant Mix Design    | Aggregate Properties Mix Design Technician |
| Asphalt Plant Mix Design    | Asphalt Mix Design Technician              |
| Concrete Field              | Concrete Field Technician                  |
| Concrete Plant              | Concrete Plant Technician                  |
| Central Mix Aggregate Plant | Central Mix Aggregate Technician           |
| Soils and Aggregate Field   | Soils Compaction Technician                |
| Pavement Marking            | Pavement Marking Technician                |

**Sec. 114.04 Steps Required for Certification**

To obtain certification in a selected program, the applicant has a choice of two procedures. The first procedure would be to attend a full school in the area they wish to become certified, pass a written examination and successfully complete a Proficiency Examination if required.

Approximately 2 – 3 weeks after passing the written examination, grades will be posted in VDOT University. Upon successfully passing the written exam, a Proficiency Examination must be completed. Every certification class with the exception of Asphalt Field Level I & II, Concrete Plant, Pavement Marking, Slurry Surfacing and Surface Treatment has a hands-on Proficiency Examination. The Concrete Plant and Pavement Marking Proficiency Examinations are in the form of a written examination.

The individual has until December 31<sup>st</sup> of the year in which they passed the written examination to successfully complete the Proficiency Examination. After successfully completing the Proficiency Examination, a Certification will be awarded. The Certification is valid for five years. The Certification card has the expiration date printed on it. Expiration is five years from December 31<sup>st</sup> of the school year that the individual attended class. Students may print their own certification cards from VDOT University. The web address is: <https://VirtualCampus.VDOT.Virginia.gov/External>.

If an individual attended a full school, and fails the written exam or the Proficiency Examination they may retake the part, or parts failed, **ONE TIME ONLY**. This must be done before December 31<sup>st</sup> of the current school year. After December 31<sup>st</sup> the individual must come back to the full school and pay the full fee again.

The second procedure for obtaining Certification is as a Self-Study student. The individual would take the examination and any required Proficiency Evaluation without attending a full school. The full course fee still applies. **If the student fails to pass either examination on the first attempt, he/she must pay the full course fee and attend a full school in the area they wish to become certified prior to retesting.**

The Certification belongs to the individual, not their employer. Upon change of employment or location, the Materials Certification Schools Staff should be notified to update the student's record.

### Proficiency Examination Requirements

| <b>Materials Certification Title</b> | <b>School</b>                  | <b>Proficiency Requirements</b>   | <b>Contact Information</b>                                     |
|--------------------------------------|--------------------------------|---|--|
| Aggregate Properties Technician      | Asphalt Plant Mix Design       | ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19  | MCS Program Office   |
| Asphalt Field Level I Technician     | Asphalt Field Level I          | No proficiency examination required   | No proficiency examination required                            |
| Asphalt Field Level II Technician    | Asphalt Field Level II         | No proficiency examination required   | No proficiency examination required                            |
| Asphalt Plant Level I Technician     | Asphalt Plant Level I          | Road & Bridge Specification 211.05, AASHTO R47  | MCS Program Office   |
| Asphalt Plant Level II Technician    | Asphalt Plant Level II         | AASHTO T30, AASHTO T166, AASHTO T209, AASHTO T269, AASHTO T312, VTM-102   | MCS Program Office   |
| Asphalt Plant Mix Design Technician  | Asphalt Plant Mix Design       | ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19, AASHTO T30, AASHTO T312, VTM-102, AASHTO T209, AASHTO T166, AASHTO T283 | MCS Program Office   |
| Central Mix Aggregate Technician     | Central Mix Aggregate Plant    | AASHTO T2, AASHTO T11, AASHTO T19, AASHTO T27, AASHTO T248, AASHTO T255, AASHTO T89, AASHTO T90   | MCS Program Office   |
| Concrete Field Technician            | Concrete Field                 | ACI Concrete Field Level I (ASTM C172, ASTM C1064, ASTM C143, ASTM C31, ASTM C231, ASTM C173, ASTM C138 )   | Virginia Ready-Mix Concrete Association (VRMCA) (434) 977-3716 |
| Concrete Plant Technician            | Concrete Plant                 | Written proficiency examination required.   | Part of written examination                                    |
| Pavement Marking Technician          | Pavement Marking               | Written proficiency examination required.   | Part of written examination                                    |
| Slurry Surfacing Technician          | Slurry Surfacing               | No proficiency examination required   | No proficiency examination required                            |
| Soils Compaction Technician          | Soils and Aggregate Compaction | AASHTO T217, VTM-10, VTM-12, ASTM D4959   | MCS Program Office   |
| Surface Treatment Technician         | Surface Treatment              | No proficiency examination required   | No proficiency examination required                            |

### **Sec. 114.05 Recertification**

In order to recertify, technicians must complete an on-line Recertification Program and a Proficiency Examination in the particular subject area prior to their certification expiration date; this should be done some time during the last year of their current certification period.

Refer to the **Recertification Requirements** table on the following page for the specific requirement for each certification.

It is the responsibility of the individual to complete the appropriate recertification requirements prior to the expiration of their certifications.

### Recertification Requirements

| <b>Materials Certification Title</b> | <b>School</b>                     | <b>Online Recertification Course Requirement</b> | <b>Proficiency Requirements</b>   | <b>Contact Information</b>                                     |
|--------------------------------------|-----------------------------------|--|---|--|
| Aggregate Properties                 | Asphalt Plant Mix Design Level II | Yes  | ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19  | MCS Program Office   |
| Asphalt Field Level I Technician     | Asphalt Field Level I             | Yes  | No proficiency examination required.  | No proficiency examination required                            |
| Asphalt Field Level II               | Asphalt Field Level II            | Yes  | No proficiency examination required.  | No proficiency examination required                            |
| Asphalt Plant Level I Technician     | Asphalt Plant Level I             | Yes  | Road & Bridge Specification 211.05, AASHTO R47  | MCS Program Office   |
| Asphalt Plant Level II               | Asphalt Plant Level II            | Yes  | AASHTO T30, AASHTO T166, AASHTO T209, AASHTO T269, AASHTO T312, VTM-102   | MCS Program Office   |
| Asphalt Plant Mix Design Technician  | Asphalt Plant Mix Design          | Yes  | ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19, AASHTO T30, AASHTO T312, VTM-102, AASHTO T209, AASHTO T166, AASHTO T283 | MCS Program Office   |
| Central Mix Aggregate Technician     | Central Mix Aggregate Plant       | Yes  | AASHTO T2, AASHTO T11, AASHTO T19, AASHTO T27, AASHTO T248, AASHTO T255, AASHTO T89, AASHTO T90   | MCS Program Office   |
| Concrete Field Technician            | Concrete Field                    | Yes  | ACI Concrete Field Level I (ASTM C172, ASTM C1064, ASTM C143, ASTM C31, ASTM C231, ASTM C173, ASTM C138 )   | Virginia Ready-Mix Concrete Association (VRMCA) (434) 977-3716 |
| Concrete Plant Technician            | Concrete Plant                    | Yes  | Written proficiency examination required.   | MCS Program Office   |
| Pavement Marking Technician          | Pavement Marking                  | Yes  | VTM-94<br>Done online   | MCS Program Office   |
| Slurry Surfacing Technician          | Slurry Surfacing                  | Yes  | No proficiency examination required.  | No proficiency examination required                            |
| Soils Compaction Technician          | Soils and Aggregate Compaction    | Yes  | AASHTO T217, VTM-10, VTM-12, ASTM D4959   | MCS Program Office   |
| Surface Treatment Technician         | Surface Treatment                 | Yes  | No proficiency examination required.  | No proficiency examination required                            |

### **Sec. 114.06 Extensions**

Extension of certifications will be considered on a case by case basis and approved by the State Materials Engineer.

### **Sec. 114.07 Suspension of Certification**

Certification is deemed to be a privilege that has been earned by an individual and may be suspended at any time if, in the opinion of the VDOT Technician Certification Review Board, an individual is thought to have knowingly committed acts that are detrimental to the integrity of the Certification Program or to the industry in general. All cases of potential certification suspension will be reviewed by the VDOT Technician Certification Review Board and they will recommend to the State Materials Engineer any action deemed appropriate. The State Materials Engineer will then make the final decision on what action will be taken, if any. The VDOT Technician Certification Review Board will be comprised of the following:

- The District Materials Engineer or designee (from District in which the incident occurs)
- The District Construction Engineer or designee (from District in which the incident occurs)
- The Materials Certification Schools Program Manager or designee

A suspension will be for a definitive amount of time as deemed appropriate based on the nature and severity of the infraction. Any individual who has their certification suspended will have to attend the appropriate Certification School and pass all required examinations to have their certification reinstated.

Acts that may result in suspension of certification include, but are not limited to the following:

- Falsification of field or quality control tests results and/or records
- Submitting false information that can be used for field or quality control test results
- Failure to perform specified duties
- Failure to follow appropriate testing or sampling procedures
- Display of any dishonest behavior during certification or re-certification

Any suspected inappropriate actions by an individual should be reported to the District Materials Engineer (DME) in the District in which the incident occurs. The DME has the authority to temporarily suspend an individual's certification pending review by the VDOT Technician Certification Review Board. The DME will notify the Materials Certification Schools Program Manager, who will convene the VDOT Technician Certification Review Board. The Board will meet to review the incident as soon as practical. The individual will appear before the Board at that time.

Suspension of one Certification may be considered grounds for suspension of all Certifications held by the Technician. Further, any suspension of a Technician's Certification in any other jurisdiction may result in the VDOT Technician Certification Review Board taking the same or other action, against a Technician's Certification in Virginia.

### **Sec. 114.08 Program Instructors**

Instructors for the program come from VDOT's Learning Center, Materials Division, Traffic Engineering, Regional Construction Quality Improvement Program and private industry. Although instruction must comply with VDOT procedures and specifications, we welcome and encourage the participation of industry in all parts of the program.

The Materials Certification Schools Staff assists instructors by providing visual aids, instructor training, videotape production, writing/editing of manuals and presentations, grading of examinations and maintenance of the program's database.

### **Sec. 114.09 Program Evaluation**

#### **Examinations**

Written examinations are all "open book", proficiency examinations are "closed book." A valid photo ID must be presented prior to taking any examination.

The Materials Certification Schools Staff grades all examinations. The examination results of each class are compiled and analyzed. Frequently missed questions are evaluated and addressed by some combination of clarifying the question, highlighting the information in the manuals, asking the instructor to highlight the information or revising the question.

#### **Advisory Teams**

At the end of each season, the teaching teams meet with the Materials Certification Schools Staff to discuss and evaluate the past year's schools. Included in this meeting are various subject matter experts, both VDOT and Industry. Student evaluations and test results are compiled prior to this time and are presented at the meeting. From this information and the advice of the instructors, action plans are formed to adjust the teaching, curriculum, manuals and tests to best meet the needs of the students and VDOT.

### **Sec. 114.10 Study Guides**

Study guides are revised and printed annually. Instructor teams meet at the end of each school season to ensure the study guides contain accurate and up to date information. Changes or corrections are incorporated into the study guides before the next school season. Study Guides are available for downloading on the Materials Certification School web page at:

<http://www.virginiadot.org/business/matschools.asp>.

### **Sec. 114.11 Scheduling**

Scheduling is done by the Materials Certification Schools Staff. Classes are generally held between January and the middle of April.

Scheduling of the schools is usually completed by early September. Districts in which schools will be held are determined according to estimated attendance. During the school year, registration numbers are monitored to determine if additional schools are needed.



Schedules may be obtained from the Materials Certification School web page at:  
<http://www.virginiadot.org/business/matschools.asp>.

### **Sec. 114.12 Class Cancellations**

Every effort will be made to hold classes; however, weather conditions or low registrations may be justification for cancellation of a class. The Materials Certification Schools Staff will make every attempt to contact the students in the event of a cancellation. If the District Office closes due to inclement weather, the class will be cancelled also. If this happens contact the Materials Certification Schools Staff to make other arrangements. Cancellations will also be posted on the Materials Certification Schools Information Line (1-866-527-8656).

### **Sec. 114.13 Fees for Schools**

Fees for schools are subject to change. Current fees for Certification Schools may be found in the Materials Certification School Brochure. The fee includes course attendance, manual and other materials, the examination and one retest for full schools.

Students may, if they feel qualified, take the examination without attending a full school. The full course fee still applies; with this option, no retest is allowed.

### **Sec. 114.14 Refunds**

Full refunds, transfers between sections and student replacements are allowed only if notification is received at least five business days before the start of the class. Contact:

**Materialscertification@vdot.virginia.gov**.

To process a refund the following information must be submitted by email to

**Materialscertification@vdot.virginia.gov** :

**Company Name**

**Students Name**

**Name and location of class**

**Copy of the original payment transaction**

### **Sec. 114.15 Alternate Certifications**

VDOT will recognize NICET Construction Materials Testing Level II Certification in Soils. Individuals possessing a current NICET Construction Materials Testing Level II Certification in Soils will not need to obtain a VDOT Soils and Aggregate Compaction Certification. Similarly, VDOT will recognize NICET Construction Materials Testing Level II Certification in Concrete. Individuals possessing a current NICET Construction Materials Testing Level II Certification in Concrete will not need to obtain a VDOT Concrete Field Certification. Individuals not possessing a current NICET certification described above, have the option of obtaining the prescribed NICET certification or the applicable VDOT certification.